

Policy and Operational/Governance Framework Analysis

Louisiana Petrochemical Megasite Study Part II

A Report for

**Louisiana Economic Development
P.O. Box 94185
Baton Rouge, LA 70804-9185**

Presented by



**Center for Business and Information Technologies
University of Louisiana at Lafayette
P.O. Box 44932
Lafayette, LA 70504-4932
(337) 482-0600**

June 30, 2004

Table of Contents

Executive Summary	1
Introduction	2
Definitions and Topology of Site Management	2
Basic Types of Megasite Governance Frameworks	2
Case Studies	3
A Case Study of Shintec and Tulane Law Clinic	3
Reference	4
LOOP (Louisiana Offshore Oil Port)	4
Reference	5
Education of the Workforce.....	5
Training and Educational/Human Resource issues	5
<i>Current State of Education/Training in Louisiana</i>	5
<i>Strengths and Weaknesses</i>	6
<i>Comparison to Texas</i>	6
Reference	7
Environment.....	8
Ozone Nonattainment.....	8
Reference	9
Tax Policy and Other Financial Incentives	9
Tax Incentives.....	9
<i>Current State of Tax Incentives in Louisiana</i>	9
<i>Strengths and Weaknesses of Louisiana Taxes</i>	11
Reference	12
Infrastructure	12
Transportation	13
Railroad	13
Highways	13
Ports Management.....	14
Airways	15
LNG Terminals.....	16
Energy Regulation and Cogeneration.....	16
Electric Power	16
Petroleum.....	17
Reference.....	17
Conclusions / Future Work.....	18

List of Figures

Figure 1. Classified Ozone Nonattainment Areas in Louisiana and Texas.....	8
--	---

List of Tables

Table 1. Comparison of Louisiana Education Systems with Those of Texas.....	7
Table 2. Comparison of Nonattainment Areas in Texas and Louisiana.....	9
Table 3. Selected Louisiana ports based on ranking of tonnage.....	14
Table 4. Selected Texas ports based on ranking of tonnage	15

Executive Summary

The purpose of this report is to analyze the existing policy and governance frameworks that would impact a Louisiana petrochemical Megasite. Just as the first part of this study looked at the current state of Megasites, this report's purpose is to look at the current state of the policies supporting Megasites. The emphasis is on Louisiana where we hope to build the Megasite and on Texas which is closest competing site and which has a similar political system. The combined goal of these reports is to lay the foundation for the final parts of the study on the economic feasibility of a Louisiana Petrochemical Megasite and to make policy recommendations.

The report begins with an overview of the governance frameworks used at other Megasites around the world. Case Studies on the Tulane Law Clinic and on the Louisiana Offshore Oil Port (LOOP) are then presented to set the stage for the policy analysis. The outline of the policy issues comes from Louisiana Vision 2020 and the Texas Master Economic Plan. The issues are grouped into the categories of education and workforce, environment, tax policy and incentives, and infrastructure.

Certain key areas for policy are clearly identified by Louisiana industry and in other Megasites as critical factors. These are areas identified in both Louisiana's and Texas's economic development master plans. These are areas that a petrochemical Megasite plan will have to address. The issues of how to select, promote, and manage the vertical integration of the site are one group of issues. Also, at a minimum, the issues of the speed of permitting, transportation infrastructure, utilities, and access to world market LNG at stable prices will need to be addressed. We hope to do just that in the following two reports and gather public support in the ensuing Louisiana Petrochemical Megasite Conference.

Policy and Operational/Governance Framework Analysis

Louisiana Petrochemical Megasite Study Part II

Introduction

This **Policy and Operational/Governance Framework Analysis** is Part II of the **Louisiana Petrochemical Megasite Project**. It examines the existing framework of laws and policies that influence petrochemical Megasite development. This report complements Part I's operational focus on existing Megasites and the factors contributing to their success and failure. It builds on the Review of Existing Megasites and the Joint Venture Survey presented in Part I and adds additional legal and policy research. As in the first report, additional sites of related interest have also been studied for the perspective they can provide to specific issues. In this report the Shintec – Tulane Law Clinic case and the Louisiana Offshore Oil Port (LOOP) project are additionally considered. Given the proximity of Texas, its competitive strengths, and its similar legal environment, especially when compared to many Asian and Middle Eastern sites, a special emphasis was placed on comparing Louisiana's legal and policy environment to that of Texas's.

Part I began with a brief definition of what a Petrochemical Megasite was and how they could be operationally classified based on their collaboration with their buyers and suppliers. Part II will similarly begin with a discussion of the umbrella organizational framework of existing Megasites and their impact on success. Survey results from Louisiana chemical manufacturers are then explored for important areas of policy in collaborative ventures. The outline of the policy issues comes from Louisiana Vision 2020 and Texas Master Economic Plan. From there the report goes on to explore the policy issues in education and training, the environment, tax and incentives, and infrastructure.

These first two reports will lay the foundation for the economic feasibility study that is at the heart of the Louisiana Petrochemical Megasite Project. This report will also provide the ground work for the report on model legislation and governance policy.

Definitions and Topology of Site Management

Basic Types of Megasite Governance Frameworks

The primary impetus for the development of a Megasite can be national government, local government, or private industry. Various combinations of all three are possible. Certainly, since the fall of communism, the participation of private industry is envisioned on the operational side of all ventures.

Selected sites are still, however, highly national in character. Megasites in China and in Saudi Arabia are the culmination of national initiatives. They were facilitated by national infrastructure investments, the investments of government enterprises, and the participation of minority owned national companies. Their success is a matter of national pride and they have the full backing of authoritarian regimes that can bend or break any rules that hinder their development. However, the power of a nation state is a two edged sword. Private

investment is leery of making large investments with the latest technology in authoritarian states where the rule of law may not protect their investment. Governments may also subsidize state owned firms creating uneven playing fields for competition. Additionally, government employment and purchasing regulations may slow activity and increase costs.

Local government is another frequent sponsor of industrial development. The sponsor may be a state, city, or special purpose entity, such as a port. In this case the limited authority of the local unit is also a two edged sword. The limited authority of local government means that it is constrained by national law. This is an advantage in that investment partners may feel that there is a higher authority to constrain local decisions and avenues of appeal in the case of capricious actions by local government. The other side of this limited authority is that there is often limited and overlapping local authority that can create bureaucratic confusion and delays. National regulations may also prevent actions which would be locally advantageous because of larger national priorities. All of this creates situations where sponsorship of petrochemical Megasites is often framed more in terms of the removal of local authority and oversight than in the active management of the site. Examples of this are found in special industrial districts protected from local incorporation and taxation.

The final general umbrella framework for petrochemical Megasites is that of private sponsorship. This may be a large vertically integrated company, a collaborating group, or a special purpose entity. Large firms are increasingly spinning off operational units and setting up dedicated firms to run the infrastructure of developing Megasites. The Port of Rotterdam has decided to devolve its operational oversight to a private firm. This is a trend in the Western Democracies both for governments and large businesses. Private sites are often brown field sites in need of redevelopment or large company sites. Many private firms are currently seeking to spin off non core operations, achieve economies of scale, and improve profits from vertical integration through Megasite development. Spinning off or contracting for, site management is often seen as a way to improve efficiency, deal with conflict of interest, and promote collaboration on site.

No single method of governance is perfect. Our definition of a Megasite envisions a public and private partnership resulting in a collaborative effort to support the Louisiana petrochemical industry. Government's role in the project would be to facilitate investment and remove operational roadblocks. Private industry's role would be to operate the plants, utilities, and service infrastructure. It is in that spirit that the rest of the report is written.

Case Studies

A Case Study of Shintec and the Tulane Law Clinic

Shintec, a subsidiary of a Japanese company, announced plans to build a \$700 million polyvinyl chloride plant near Convent, Louisiana. The Department of Environmental Quality quickly approved it. Professor Houck, in response to pollution, founded the Environmental Law Clinic at Tulane University in New Orleans. Students at the clinic provide free legal services to those who could not otherwise afford it. The Louisiana Supreme Court allowed the student assistance for almost thirty years under a provision called Rule XX. Residents of Convent turned to the clinic to help them fight Shintec. The student lawyers argued that it was not environmentally just to put in yet another heavily polluting plant alongside six others that had already overloaded the environment with chemicals. The EPA ruled in favor of the Convent residents, deciding that Shintec did not meet the air pollution standards. The plant was never built.

The State Supreme Court investigated whether the Clinic was in violation of any rules governing student lawyers. One rule barred Clinics from representing anyone whose income is greater than 200% of the federal poverty level. For community organizations, less than half the member must meet the rule's definition of indigent groups. Students lost the free speech battle in the 5th Circuit.

In October 2002, a federal court threw out a motion seeking to disqualify the students as counsel in a suit against an oil refinery, *Concerned Citizens of New Sarpy v. Orion refining Corporation* because the Clinic argued that the local rules did not apply in federal court. The Clinic is now free to proceed.

In February 2004, Tulane Environmental Law Clinic sued under the Clean Air Act Chalmette Refining LLC, a joint venture of ExxonMobil and PDVSA - an environmental citizen suit under the Clean Air Act and the Emergency Plan and Community Right to Know Act – Clinic represents the Bucket Brigade and the St. Bernard Citizens for Environmental Quality. This case is pending. Louisiana Environmental Action Network filed suit against Honeywell International under the Clean Water Act. The suit was prepared by the Tulane Clinic. This case is also pending.

Reference

- [1] "Corporate financed campaigns...Government by the rich, for the rich?", (2000, April), (*afn.org*), Available: http://www.afn.org/~iguana/archives/2000_04/20000402.html (Accessed: 2004, April)
- [2] Robert R. Kuehn (2000), "Access to justice: The social responsibility of lawyers: Denying Access to Legal Representation: The Attack on the Tulane Environmental Law Clinic", *Washington University Journal of Law & Policy*.

LOOP (Louisiana Offshore Oil Port)

LOOP is America's first and only deepwater port operating under U. S. and Louisiana licenses. Louisiana Offshore Oil Port (LOOP), built by a group of major oil and pipeline companies, provides tanker offloading and temporary storage services for crude oil transported on some of the largest tankers in the world. LOOP's marine transfer station and oil port is located in the Gulf of Mexico approximately 20 miles south of Grand Isle, Louisiana, in 110 feet of water. Most tankers offloading at LOOP are too large for other U.S. inland ports. A submarine pipeline moves crude oil to Clovelly, Louisiana, where LOOP maintains eight underground salt caverns capable of storing up to 45 million barrels of crude oil. This storage capacity enables LOOP to store large volumes of crude oil before it is delivered to refiners in smaller batches that are more suitable for refinery tanks. The storage facilities are connected to the St. James hub by pipeline. LOOP's onshore facilities, Fourchon Booster Station and Clovelly Dome Storage Terminal, are located just on-shore in Fourchon, LA and 25 miles inland near Galliano, LA. LOOP facilitates transportation and distribution of crude oil to Louisiana refineries. The construction of this facility was facilitated by the State and is monitored by the Louisiana Offshore Terminal Authority Program in the Department of Transportation. This has been a priority of the State since it opened in 1980.

Reference

- [1] "La DOTD - LOOP", (*dotd.louisiana.gov*), Available: http://www.dotd.louisiana.gov/programs_grants/loop/loop.shtml (Accessed: 2004, June)

- [2] "Enbridge and LOOP Join Forces for Proposed Gulf Coast Oil Pipeline", (cdn-news.com), Available:
<http://www2.cdn-news.com/scripts/ccn-release.pl?/1999/03/23/0323076n.html?cp=enb2> (Accessed: 2004, June)

A comparison of these two case studies and with the Louisiana Airport Authority case study in Part I of this project shows the importance of State agencies and businesses working together. Working with a sense of purpose, it was possible to deal with the Arab oil embargo and price spikes of the 70's. This same sense of purpose will be needed to deal with the current gas price spikes and current problems in the chemical industry.

Education of the Workforce

Training and Educational/Human Resource issues

Operation of process plants (chemical, petroleum refining, paper, and pharmaceutical) requires a number of skilled and educated individuals. Among the personnel required are: process plant operators, laboratory technicians, construction and maintenance personnel, engineers, scientists, office personnel and managers. The largest numbers of these are process plant operators, laboratory technicians, and construction and maintenance personnel.

Current State of Education/Training in Louisiana

The Louisiana Chemical Industry is concerned about the number of trained process operators available to operate its plants. This is a concern due to the aging of the existing workforce, rather than demands caused by construction of new plants. At least one source says that there are not currently enough trained operators for process plants in Louisiana.

The concern about education and training is primarily at the technician level; traditionally, management and professional positions have been filled by supplementing professionals available in Louisiana with out-of-state personnel.

Since the process industries are becoming more and more "high-tech", both general education and occupation-specific education are increasingly important. Technician level positions may require post-secondary education. Therefore, both general education and occupation specific concerns will be examined.

General Education Concerns

In 1990, 68.3% of Louisiana's population 25 and older had graduated from high school. This was tied for 43rd nationally. By 2000, this had improved to 74.8%. However, this was now 48th nationally. National averages were 75.2% in 1990 and 80.4% in 2000.

Similarly in 1990, 36.6% of the same population in Louisiana had at least some college, 47th nationally. By 2000, this had improved to 42.4%, but was still 47th nationally. The national averages were 45.2% and 51.8%.

In 1995-1996, Louisiana granted 2698 associate degrees. In 2000-2001, 3073 associate degrees were granted. Nationally, 555,216 associate degrees were granted in 1995-1996, and 578,865 in 2000-2001. Since Louisiana has in the order of 2% of the population of the United States, a similar ratio to the population would result in Louisiana granting approximately 10-11,000 associates degrees per year.

In summary, educational attainment in Louisiana is improving, but is significantly below the national average. Louisiana has been particularly deficient in production of graduates with associate degrees. In recent years, Louisiana has sought to remedy the latter deficiency by expanding the community college system. The results of this expansion are not yet fully reflected in the above statistics.

Occupation Specific Education and Training

Louisiana has associate degree programs at 5 public institutions plus one private institution to train process plant operators. At least 47 graduates are expected this spring. This would correspond to approximately 100 graduates per year. Approximately 2/3 of these are in the Lake Charles area.

Only 3 states (Louisiana, Texas, and Alaska) have educational programs in process plant operation at more than 2 institutions. A number of states have programs at one or two institutions. Louisiana also has programs at 5 public institutions plus one private institution in Instrumentation Technology or Industrial Instrumentation.

Other specifically relevant associate degree programs might be Pulp and Paper Technology (1 institution) and Welding (many institutions), Certificate programs are available in the same areas as associates degrees, as well as Industrial Maintenance Technology (5 institutions), Non-destructive Testing Technology (1 institution), and Drafting and Design Technology (many institutions).

Training for construction occupations is available at ABC (Associated Builders and Constructors), primarily in New Orleans, Baton Rouge, and Lake Charles. Funding for incumbent worker training is offered through the Department of Labor.

Strengths and Weaknesses

Louisiana has a strong program in education specific to occupations needed in the petrochemical industry, relative to the remainder of the nation.

The general level of education is lower than the national average, particularly at the college level. The availability of occupation-specific education somewhat compensates for this. Education may be an issue of utilization of existing programs, rather than availability.

Comparison to Texas

General Education

One should keep in mind that Texas had a population of approximately 4.5 times that of Louisiana in 2000.

	Texas	Louisiana
High School Graduates, % of population 25 and over , 2000	75.7	74.8
Some college, % of population 25 and over, 2000	50.8	42.4
Associate degrees awarded	24,549 (2001)	3073 (1999-2000)

Table 1. Comparison of Louisiana Education Systems with Those of Texas

Table 1 provides the comparison of Louisiana education systems with those of Texas. In summary, Texas has a slightly higher rate of high school graduation, but has a significantly higher percentage of the population with some college. Approximately twice as many Texas residents are awarded associate degrees relative to population. This is reflective of the larger and more established community college system in Texas relative to Louisiana.

Occupation Specific Education

Again, one must keep in mind that the population of Texas is approximately 4.5 times that of Louisiana. The petrochemical industry in Texas is approximately 5 times as large as that in Louisiana.

Texas has training programs for process plant operators at 14 public institutions. Two of these (College of the Mainland in Brazosport, and Lamar Institute of Technology) are very large and well-established, and each are graduating approximately 40 students this spring. The remaining institutions appear to average about 9 graduates per semester. This would total 198 graduates per semester, or about 400 graduates per year. The number of graduates in this area relative to the size of the industry is comparable to that in Louisiana.

Texas has associate degree programs in Industrial Instrumentation or Instrumentation Technology at 9-11 institutions (depending on program definition). Texas offers programs in industrial maintenance technology and electromechanical maintenance technology at many institutions. There does not appear to be a specific program in non-destructive testing. Training for construction trades is available from ABC at 5 locations in the Houston area (at community colleges) plus 7 other locations in the state.

Overall, Texas and Louisiana offer similar occupation specific education and training, relative to the size of the population and industry. Occupation specific training and education may be more accessible to the student (in terms of distance or driving time) in the Houston area than in other areas, due to the density of institutions, population and petrochemical facilities. Construction craft training in Louisiana is conducted only in 3 urban areas, and is less accessible to those students working in process facilities at a distance from these 3 locations.

Reference

- [1] "GCPTA Header", (2004, April 23), (processtech.org), Available: <http://www.processtech.org> (Accessed: 2004, April)
- [2] "Associate degrees conferred by degree-granting institutions, by field of study: 1989-90 to 2000-01", (2002, September), (nces.ed.gov), Available: <http://www.nces.ed.gov/programs/digest/d02/tables/dt250.asp> (Accessed: 2004, March)
- [3] "Bachelor's degrees conferred by degree-granting institutions, by discipline division: 1970-71 to 2000-01", (2002, November), (nces.ed.gov), Available : <http://www.nces.ed.gov/programs/digest/d02/tables/dt252.asp> (Accessed: 2004, March)
- [4] "THECB – Community and Technical Colleges", (thecb.state.tx.us), Available: <http://www.thecb.state.tx.us/ctc/> (Accessed: 2004, April)
- [5] "Instrumentation Technology/technician Colleges and Universities", (uscollegesearch.org), Available: http://www.uscollegesearch.org/instrumentation_technologytechnician_colleges.html (Accessed: 2004, March)
- [6] "ABC", (1999 – 2004), (abc.org), Available: <http://www.abc.org> (Accessed: 2004, April)

- [7] "<http://www.lctcs.net/>", (2003), (*lctcs.net*), Available: <http://www.lctcs.net> (Accessed: 2004, March)
- [8] "Trends and Statistics in Higher Education", *Board of Regents, the 2001 Accountability Report*," p91

Environment

Ozone Nonattainment

Efforts are being taken to control ground-level ozone caused by pollutants that are emitted into the air mainly by industrial facilities. Baton Rouge has exceeded EPA air quality standards for ozone. EPA, the states, cities and industry are working to improve air quality in those so-called ozone nonattainment areas. One of the factors mentioned in the Joint Venture survey is ozone nonattainment as an area of concern. Figure 1 shows the ozone nonattainment areas in Louisiana and Texas.

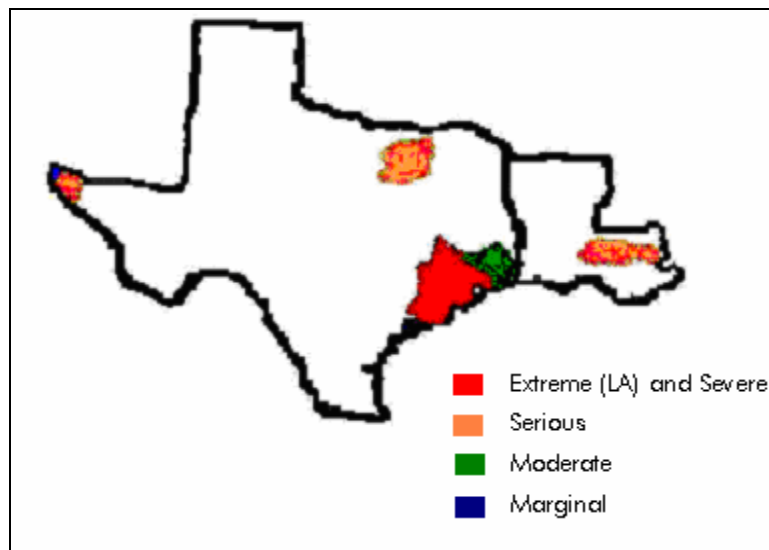


Figure 1. Classified Ozone Nonattainment Areas in Louisiana and Texas

Louisiana has a patch of area under "Serious", while its counterpart Texas has "Extreme (LA) and Severe" among others. Table 2 presents the comparison of Nonattainment Areas in Texas and Louisiana from the National Air quality and emission trends report, 2003.

State	Area Name	1-h Pollutant						1-h Population (1000s)					
		O ₃	CO	SO ₂	PM ₁₀	Pb	NO ₂	O ₃	CO	SO ₂	PM ₁₀	Pb	All
LA	Baton Rouge	1	-	-	-	-	-	636	-	-	-	-	636
TX	Beaumont – Port Arthur	1	-	-	-	-	-	385	-	-	-	-	385
TX	Dallas – Fort Worth	1	-	-	-	-	-	4589	-	-	-	-	4589
TX	El Paso	1	1	-	1	-	-	679	62	-	563	-	679
TX	Houston-Galveston-Brazoria	1	-	-	-	-	-	4669	-	-	-	-	4669

Table 2. Comparison of Nonattainment Areas in Texas and Louisiana

Louisiana - Baton Rouge area, as shown in Table 2, is better than Dallas –Fort Worth, El Paso and Houston - Galveston - Brazoria areas.

Policy and its drivers

Pollution reductions will take longer at refineries and chemical plants in the Houston, Beaumont-Port Arthur and Baton Rouge areas, but new controls are expected to be in place between 2005 and 2007. A new Louisiana state rule requires Baton Rouge industry to comply with a more strict nitrous oxides emission limit during the five summer months. Section 110 of the Clean Air Act (Act) or (CAA) requires states to submit plans to EPA which provide for implementation, maintenance, and enforcement of the primary and secondary national ambient air quality standards for the criteria pollutants regulated under Title I of the Act (i.e., ozone, carbon monoxide, particulate matter less than or equal to 10 microns (PM-10), sulfur dioxide, nitrogen dioxide, and lead). The overall levels of pollution are lower in Louisiana, and this should provide the state with an advantage over Texas.

Reference

- [1] "National Air Quality and Emissions Trends Report, 2003", (2003), (epa.gov), Available: http://www.epa.gov/airtrends/non_table.pdf (Accessed: 2004, March)
- [2] "EPA Air trends - Criteria Pollutants - Nonattainment Areas", (2004, June 25th), (epa.gov), Available: <http://www.epa.gov/airtrends/non.html> (Accessed: 2004, March)

Tax Policy and Other Financial Incentives

Tax Incentives

Current State of Tax Incentives in Louisiana

Each State in the United State provides various Financial Assistance programs and Tax Incentives to attract businesses to locate in the state. The following Financial Assistance programs may affect the success of Megasites:

- State Loans for Building Construction
- State Loans for Equipment, Machinery
- City and/or County Loans for Building Construction

- City and/or County Loans for Equipment, Machinery
- State Loan Guarantees for Building Construction
- State Loan Guarantees for Equipment, Machinery
- City and/or County Loan Guarantees for Building Construction
- City and/or County Loan Guarantees for Equipment, Machinery
- State Financial Aid for Existing Plant Expansion
- State Matching Funds for City and/or Country Industrial Financing Programs
- State Incentives for Establishing Plants in Areas of High Unemployment
- City and/or County Incentive for Establishing Industrial Plants in Areas of High Unemployment

Tax Incentives that are likely to affect the success of Megasites include:

- Corporate Income Tax Exemption
- Tax Exemption or Moratorium on Land, Capital Improvements
- Tax Exemption or Moratorium Equipment, Machinery
- Inventory Tax Exemption on Goods in Transit (Freeport)
- Tax Exemption on Manufacturers' Inventories
- Sales/Use Tax Exemption on New Equipment
- Tax Exemption on Raw Materials Used in Manufacturing
- Tax Incentive for Creation of Jobs
- Tax Incentive for Industrial Investment
- Tax Stabilization Agreements for Specified Industries
- Tax Exemption to Encourage Research and Development
- Accelerated Depreciation of Industrial Equipment

Louisiana offers four major tax incentive programs as described below:

a. Enterprise Zone Program

Louisiana's Enterprise Zone Program (EZ program) provides tax credits and other incentives to businesses locating in selected Enterprise Zones in both urban and rural parishes. The program offers tax credits and sales and use tax refunds to businesses that hire at least 35% of their new employees from one of four targeted groups. The EZ program encourages businesses receiving incentives under the program to give consideration to Louisiana manufacturers, suppliers, contractors, and labor for their project.

For each certified net new job created, the program provides a one time \$2,500 tax credit (\$5,000 tax credit for net new job for certain automotive or aerospace companies). In the second year of employment, an additional \$2,500 tax credit may be generated if the new employee is certified as receiving assistance through the Family Independence Temporary Assistance Program (FITAP).

b. Industrial Property Tax Exemption

Louisiana's Industrial Property Tax Exemption is an incentive program for capital investments. It is offered for manufacturers only. Manufacturers new to the State and new investments additions to existing facilities in Louisiana are eligible to receive five-year property tax exemptions, renewable for an additional five years on new capitalized purchases. The exemption may apply to land, buildings, machinery, equipment, furniture, and fixtures for new, expanded, or renovated facilities, for a period up to 10 years. As with other business incentives provided by the State of Louisiana, the program encourages the business and its contractors participating in the program to give preference to Louisiana manufacturers, suppliers, contractors, and labor.

c. Restoration Tax Abatement

The Restoration Tax Abatement (RTA) provides incentives used by municipalities and other local governments to encourage the expansion, restoration, improvement and development of existing commercial structures and owner-occupied residences in Downtown Development Districts, Economic Development Districts and Historic Districts.

The program grants a five year deferred assessment of the ad valorem property taxes normally assessed on renovations and improvements to existing commercial structures or owner-occupied residences within qualifying districts. The RTA contracts may be eligible for renewal for an additional five years if approved by the local governing authority.

d. Quality Jobs Program

Louisiana's Quality Jobs Program provides incentives in term of tax credit to attract certain businesses to locate in Louisiana. It also promotes economic development and the creation of jobs in Louisiana. The program provides an annual income/franchise tax credit for up to 10-years of 5% of gross annual payroll for new jobs created that pay minimum hourly wage rates of \$9.01, or 6% of gross annual payroll for new jobs crated that pay minimum hourly wage rates of \$11.59.

Employers must offer a basic health plan (basic hospital care and basic physician care) within 90 days of qualifying for the program. For full-time employees who work at least 35 hours per week or at least 30 hours per week if a Call Center, the employer must pay at least 85% of the total premium for individual health insurance coverage for full-time employees or at least 50% of the total premium for health insurance coverage for full-time employees and their dependents. The program also offers a rebate of state sales/use tax on materials for new infrastructure, building materials, machinery and equipment purchased during the construction period and used exclusively on site.

Strengths and Weaknesses of Louisiana Taxes

Strengths

- Offers 100% deductions of federal corporate income tax.
- Provides as an incentive, a 100% credit against state corporate income and franchise taxes to qualifying manufacturers, distributors, and retailers for inventory taxes paid to political subdivisions.
- Provides accelerated depreciation on industrial equipment.
- Low sales tax rate on construction materials.
- Exempts pollution control / abatement equipment from sales tax.

- Low sales and use tax on industrial materials used, consumed, or destroyed during manufacturing.
- Low sales and use tax on electricity used in manufacturing.
- Low sales and use tax on natural gas used in manufacturing.
- Low sales and use tax for water used in manufacturing.
- Low sales and use tax rate on interstate / intrastate telephone and telegraph services.

Weaknesses

- High corporate income tax rate at 8%.
- Does not allow a company to negotiate the apportionment formula used to calculate state corporate income tax.
- High average effective property tax on real and personal property.
- High sales and use tax rate for the region.
- High workers' compensation rate per \$100 of value.
- High state unemployment insurance rate for new employers.
- High state unemployment insurance tax liability per employee for a new employer.

Reference

- [1] "Louisiana Tax Incentives", (*dnr.state.la.us*), Available: <http://www.dnr.state.la.us/sec/execdiv/techasmt/lep/drilling/drill-02.htm> (Accessed: 2004, March)
- [2] "Iberia Industrial Development Foundation", (2004), (*iberiaparishidf.org*), Available: <http://www.ci.shreveport.la.us/guide/taxinctv.htm> (Accessed: 2004, May)
- [3] "Enterprise Zone Program", (2003, July), (*led.state.la.us*), Available: http://www.led.state.la.us/businessresources/pdf/EZ_Facts.pdf (Accessed: 2004, April)
- [4] "Industrial Property Tax Exemption", (2003, July), (*led.state.la.us*), Available: http://www.led.state.la.us/businessresources/pdf/ITE_Facts.pdf (Accessed: 2004, April)
- [5] "Restoration Tax Abatement", (2003, July), (*led.state.la.us*), Available: <http://www.led.state.la.us/businessresources/pdf/RTA%20Fact%2011-%202003.pdf> (Accessed: 2004, April)
- [6] "Quality Jobs Program", (2003, November), (*led.state.la.us*), Available: http://www.led.state.la.us/businessresources/pdf/qualityjob_facts.pdf (Accessed: 2004, May)
- [7] "A Final Report on Louisiana Economic Development Incentives Study", (2003), (*Flour*), (Accessed: 2004, May)

Infrastructure

Economic growth stimulates the need for infrastructure improvement. To sustain economic growth, removing infrastructure bottlenecks and building new infrastructures are required. The core areas of infrastructural improvement include support for transportation and power.

Transportation

A definite advantage to the industries located in Louisiana is the ease of transporting raw materials into the state and finished goods to market. Louisiana has advanced road and rail facilities, four world ports, 4,500 miles of navigable inland waterways and international air service. One of the initiatives to enhance Louisiana's transportation infrastructure is a project started by The Louisiana Transportation Center (the "LTC"). This project is designed to meet the long-term transportation needs of Southern Louisiana and combines multiple modes of transportation; air, surface, ocean and rail, to a central distribution, logistics, and a fulfillment park.

Railroad

All of the Class 1 railroads in North America connect in Louisiana. Nineteen railroad and 2,200 miles of mainline track form a statewide transportation system. The rail system is especially well-developed to the mid-continental U.S. with a three to four-day delivery from central Louisiana. Virtually every region of the country can be reached within seven days by rail. Rail rates in Louisiana for many commodities tend to be lower than those in other states because of the competition from barge carriers. 60% of the total tons originated in the Freight Railroad Traffic in Louisiana were chemicals and 23% of the total tons terminated in Louisiana were chemicals.

Around eighteen companies operate either mainline and/or branch line routes. They vary from local coverage like Delta Southern and Arkansas & Louisiana Missouri in northeastern Louisiana to larger companies with more familiar names that provide statewide coverage.

Policy and its Drivers

A Louisiana State Rail Plan exists to describe the state's rail system, the use of that system, the key issues in transportation, the needs of short lines, and potential corridors for passenger rail service. The plan's survey of Louisiana short lines and terminal railroads identified unmet capital needs totaling \$103 million. Shippers reported rail bottlenecks in New Orleans, Shreveport and Baton Rouge that delay their traffic. When these drivers are addressed, the infrastructure will greatly benefit the industries located in the corridor.

Highways

Two major highways and six interstates provide access to and from Louisiana and are linked throughout the United States. U.S. Highway 90 runs from the southern portion of the state east towards Mississippi and Florida, and U.S. Highway 165 runs from Lake Charles north to Arkansas, connecting with U.S. 90 at Lake Charles. Three of the interstates provide east-west access: I-10 linking Lake Charles, Lafayette, Baton Rouge, and New Orleans; I-12 between Baton Rouge and Slidell; and I-20 linking Shreveport and Monroe across the northern part of the state. Providing north-south access is: a short segment of I-59 out of Slidell, I-55 from LaPlace, and I-49. From a central point in Louisiana a manufacturer can realistically count on third-day delivery truckload service to major markets in 31 states and the District of Columbia. Within this 31-state area are 69 percent of the nation's population and 70 percent of its manufacturing plants.

Policy and its Drivers

According to the Louisiana Department of Transportation and Development (DOTD), the state lags behind its peers in terms of how much money is raised for funding, and the state burden for transportation is disproportionate. Louisiana's transportation revenues are within the bottom

third of all states. The state has had the same dedicated fuel tax since 1989. Louisiana has 16,000 state miles of highway funded by a 16-cent gasoline tax for every gallon of gasoline sold in the state. By comparison, Florida has 10,000 state miles funded by a 26-cent per gallon gasoline tax. The TEA-LU (Transport Equity Act: A Legacy for Users), has been passed to bring \$3712.7 millions (Six year total) into highway programs to Louisiana.

Ports Management

Two of the nation's five largest deepwater ports are located in Louisiana at New Orleans and Baton Rouge. The state's four other major deepwater ports are at Lake Charles, LaPlace/Luling, Plaquemines, and St. Bernard. These ports provide superb access to world markets and sources of raw material. These ports are called on by some 6,000 vessels. Deepwater industrial sites are generally available and the ports of New Orleans, Lake Charles, Baton Rouge and South Louisiana operate Foreign Trade Zones. A seventh deepwater port, the Louisiana Superport off the coast of Lafourche Parish, strictly handles oil and gas. This offshore oil port is a true Superport and is the only one of its kind in the United States.

The 19,000-mile Mississippi River system can deliver cargo by barge from Louisiana to all of mid-America. Louisiana also sits at the center of the Gulf Intracoastal Waterway system that rims the Gulf of Mexico. The state itself has 4,500 miles of navigable waterways served by 25 harbor and terminal districts, many of which can assist with low-interest financing for manufacturing and storage facilities.

The rankings of selected ports in the U.S. based on the tonnage are presented in Table 3 (Louisiana) & Table 4 (Texas).

Rank	Port Name	Total	Domestic	Foreign	Imports	Exports
1	South Louisiana, LA, Port of	212,564,930	116,884,176	95,680,754	32,540,431	63,140,323
4	New Orleans, LA	85,628,353	35,331,809	50,296,544	27,074,274	23,222,270
10	Baton Rouge, LA	61,415,441	40,764,561	20,650,880	14,218,892	6,431,988
11	Plaquemines, LA, Port of	60,694,475	37,340,348	23,354,127	14,931,054	8,423,073
13	Lake Charles, LA	52,845,128	20,924,852	31,920,276	27,743,104	4,177,172

Table 3. Selected Louisiana ports based on ranking of tonnage

Rank	Port Name	Total	Domestic	Foreign	Imports	Exports
2	Houston, TX	185,050,168	64,457,446	120,592,722	85,484,988	35,107,734
5	Beaumont, TX	79,130,510	17,147,005	61,983,505	56,720,246	5,263,259
6	Corpus Christi, TX	77,575,699	23,654,308	53,921,391	44,987,020	8,934,371
9	Texas City, TX	62,270,351	18,140,825	44,129,526	40,303,834	3,825,692
24	Freeport, TX	30,142,822	5,248,758	24,894,064	22,645,478	2,248,586

Rank	Port Name	Total	Domestic	Foreign	Imports	Exports
28	Port Arthur, TX	22,802,479	7,672,180	15,130,299	12,531,490	2,598,809
56	Matagorda Ship Channel, TX	9,086,102	2,555,114	6,530,988	4,776,573	1,754,415
57	Galveston, TX	9,037,955	5,093,278	3,944,677	1,369,523	2,575,154
79	Victoria, TX	4,733,395	4,733,395	0	0	0
87	Brownsville, TX	4,099,882	1,800,560	2,299,322	1,985,454	313,868
141	Sabine Pass, TX	1,202,506	1,202,506	0	0	0

Table 4. Selected Texas ports based on ranking of tonnage

The statistics reveal that the top port in the U.S. based on tonnage is Port of South Louisiana followed by Port of Houston, Texas. In general, Louisiana ports appear to be competitive in handling output rates for general cargo commodities such as bagged agricultural products, paper products, chemical products, steel- related commodities, and containers. When compared to a major port competitor like the Port of Houston, all-inclusive costs for handling cargos in New Orleans are higher due to additional vessel steaming time, pilot pay etc. If this additional cost is excluded, operation costs in New Orleans are lower than those in Houston. Another area of focus has been in the area of expansion of port facilities to meet the increasing amount of cargo the port can handle through the addition of the bulk and general docks and general warehouse space. New port projects include the Napoleon Container Terminal at the Port of New Orleans; development of a new port complex further south on the Mississippi river capable of accommodating Post-Panamax vessels and the innovative Seapoint Project.

Policy and its Drivers

As stated earlier the required use of river pilots has been stated as a competitive disadvantage for Louisiana. Governor Blanco recently appointed shipping industry representatives to the state fee commissions that oversee pay and rate issues for the three pilot associations that guide large foreign ships along the lower Mississippi river. This move allows the Commission to function and removes it from the Public Service Commission (PSC) that had been doing it on default. Additional legislation has been passed in the latest legislative session. The outcome of these actions will be important for the future of the ports.

Airways

Louisiana has 70 public airports that have 3,000 feet or more of hard surfaced, lighted runways. Seven of these airports provide commercial passenger service through international, national and commuter airlines. The remaining 63 are general aviation airports. Seventeen major national and international airlines serve ten Louisiana cities. Direct passenger and cargo service is provided to principal U.S. cities and to Mexico, Europe, and Central and South America.

Policy and its Drivers

Louisiana and the Greater New Orleans region face difficult challenges in air cargo development. Today most international air cargo shipped to or from Louisiana is handled by out-of-state airports including Miami, Atlanta, Dallas-Ft. Worth, and Houston. New Orleans International has not been successful in attracting international air cargo, and the LTC can support growth in Louisiana air cargo activity by helping to recapture a greater share of air imports and exports. LTC is envisioned by the Louisiana Airport Authority (LAA) as multi-modal facility designed primarily to meet the transportation and distribution requirements of our new economy.

The LTC can draw on three potential sources of air cargo traffic demand: domestic air cargo traffic, international air cargo traffic, and air express regional hub activity. When developed, cargo at the LTC will not grow as rapidly if New Orleans International (Louis Armstrong) remains open, since the existing airport would continue to handle a share of domestic cargo traffic, but even with New Orleans International open, the LTC has the potential to handle over one million tons of air freight per year by 2050. The completion of the LTC project would be a competitive advantage for the Louisiana Chemical Megaproject if it were to occur.

LNG Terminals

Policy and its Drivers

LNG carries advantages for companies in cost and increased capacity, but natural gas is volatile in its liquid state and the terminals may have risks. Faced with an exodus of white-collar oil jobs leaving Louisiana to consolidate in Houston, Louisiana is "open for business" for companies interested in liquefied natural gas. A list of issues was prepared by Comprehensive Energy Policy Advisory Commission for developing an Energy Policy for Louisiana. One of the issues was to encourage the location of new LNG terminals and the expansion of the existing terminals in the State. The State should provide tax exemptions for potential expansion of LNG terminals. The State may also be able to help in the coordination and development of user groups to assure demand for the terminals. This is needed for terminal, ship, and liquefaction plant financing. The State is taking steps in this direction. An example of the State's efforts is Cheniere LNG's plan to build a liquefied natural gas terminal at Sabine Pass.

Energy Regulation and Cogeneration

Electric Power

Louisiana's electric power comes primarily from plants powered by fossil fuels, mostly coal and natural gas. Some 77 percent of its electricity is generated in these thermal plants, while 18 percent comes from two nuclear power plants constructed during the 1980s in Taft and Saint Francisville. Most of the state's power is produced by private power utilities and by industrial establishments that maintain their own generating plants.

Policy and its Drivers

A list of issues was prepared for developing an Energy Policy for Louisiana. Among the issues was the need for an exploration to reform utility regulations to remove restrictions that impede developing new electrical cogeneration capacity, and that impede joint cogeneration ventures between adjacent industrial plants, and between industrial plants and electrical utilities.

Petroleum

Louisiana requires 7.8 RVP gasoline in the heavily populated corridor that stretches from New Orleans to Baton Rouge, the City of Alexandria, and the Lake Charles area. All other areas of the state use conventional gasoline. Louisiana is a major oil producing state with abundant crude oil reserves, ranking 5th in production and 6th in reserves. Petroleum infrastructure is extensive with a large network of crude oil, product, and liquefied petroleum gas (LPG) pipelines and storage facilities. Louisiana is also home to two of the four Strategic Petroleum Reserve (SPR) storage facilities: West Hackberry in Cameron Parish and Bayou Choctaw in Iberville Parish, Louisiana. Other infrastructure includes 18 petroleum refineries with a combined crude oil distillation capacity of more than 2.7 million barrels per calendar day, the second highest in the nation after Texas. Louisiana has numerous ports including the Louisiana Offshore Oil Port (LOOP), which is capable of receiving ultra large oil tankers. Natural gas and electricity dominate the home heating market with similar market shares totaling about 47 percent each.

Policy and its Drivers:

As production within Louisiana borders declined, refinery capacity increased in inverse proportion. This dramatic trend has transformed Louisiana from principally a production state to principally a processing state with all of its petrochemical plants and petroleum refineries. In 2001 (the latest data available), Louisiana ranked 2nd in refining capacity and 2nd in primary petrochemicals production. Among the list of issues cited in developing the energy policy for Louisiana was the need for collaborative research efforts between universities and industry in the state in areas that Louisiana industry is a leader in the nation, such as petroleum refining among others. This research could be directed at improving refinery infrastructure and oil and gas production techniques among others.

Reference

- [1] "Tonnage for Selected U.S. Ports in 2001", (2004), (*iwr.usace.army.mil*), Available: <http://www.iwr.usace.army.mil/ndc/wcsc/portton01.htm> (Accessed: 2004, April)
- [2] "LA Department of Economic Development – Port of South Louisiana", (2001, January), (*lled.state.la.us*), Available: <http://www.lled.state.la.us/overview/ports/southlouisiana1.asp> (Accessed: 2004, April)
- [3] "Overview of the port of South Louisiana", (*portsl.com*), Available: http://www.portsl.com/pages/15_overview.html (Accessed: 2004, April)
- [4] "The Port of Houston Authority – Administration", (2003), (*portofhouston.com*), Available: <http://www.portofhouston.com/geninfo/admin.html> (Accessed: 2004, April)
- [5] "Port of South Louisiana on the River", (2003, June), (*portsl.com*), Available: http://www.portsl.com/pages/Newsletter_Contents_Jun_2003.htm (Accessed: 2004, April)
- [6] "Entergy Louisiana – Economic Development", (2004), (*entergy-louisiana.com*), Available: http://www.entergy-louisiana.com/LA/ed/ssrc_market.asp (Accessed: 2004, May)
- [7] "Texas Department of Agriculture – Infrastructure Development Program", (*agr.state.tx.us*), Available: http://www.agr.state.tx.us/eco/rural_eco_devo/capital_fund/fin_infrastructure.htm (Accessed: 2004, May)
- [8] "Entergy Texas – Economic Development", (2004), (*entergy-texas.com*), Available: <http://www.entergy-texas.com/tx/ed/incentiv.asp> (Accessed: 2004, May)

- [9] "Louisiana Statewide Transportation Plan Update", ([dotd.louisiana.gov](http://www.dotd.louisiana.gov)) Available: <http://www2.dotd.louisiana.gov/study/> (Accessed: 2004, April)
- [10] "Louisiana State Senate – Advisory Commission for Intergovernmental Relations Committee", (2003, January), (senate.legis.state.la.us), Available: <http://senate.legis.state.la.us/ACIR/FinalReport/> (Accessed: 2004, May)
- [11] "Economic Impacts of Transportation Equity Act: A Legacy for Users", (2004, January) ([artba.org](http://www.artba.org)), Available: http://www.artba.org/transportation_builder/pdf/TB_Jan_2004_Column2.pdf (Accessed: 2004, May)
- [12] "Shipping Incentives", ([portsl.com](http://www.portsl.com)), Available: http://www.portsl.com/pages/15_incentives.html (Accessed: 2004, May)
- [13] "Louisiana Airport Authority – Master Plan", (2004, February), ([la-airportauthority.com](http://www.la-airportauthority.com)), Available: <http://www.la-airportauthority.com/pdf/mp/Chapter%208.pdf> (Accessed: 2004, May)
- [14] "Louisiana governor's Office – New Stories and Packages", (2004), (gov.louisiana.gov), Available: http://gov.louisiana.gov/New_Stories_detail.asp?id=9 (Accessed: 2004, May)
- [15] "Encyclopedia Article – Louisiana", (2004), (encarta.msn.com), Available: http://encarta.msn.com/encyclopedia_761560280_3/Louisiana.html (Accessed: 2004, May)
- [16] "Petroleum Profile: Louisiana", (2004, March), (tonto.eia.doe.gov), Available: <http://tonto.eia.doe.gov/oog/info/state/la.html> (Accessed: 2004, April)
- [17] "Developing a Louisiana Energy Policy", (2003, April), ([dnr.state.la.us](http://www.dnr.state.la.us)), Available: http://www.dnr.state.la.us/sec/execdiv/techasmt/communications/presentations/mine_rallawinstitutefinal_040303.pdf (Accessed: 2004, April)

Conclusions / Future Work

The purpose of this report was to analyze the existing policy and governance frameworks that would impact a Louisiana Petrochemical Megasite. The emphasis was on Louisiana where we hope to build the Megasite and on Texas which is closest competing site and which has a similar political system. The case studies of the Tulane Law Clinic and LOOP were presented to set the stage for the policy analysis. These cases brought home, in a clear fashion, the need for a new economic policy model for chemical plant location in Louisiana. Surveys of the industry clearly show that Louisiana's most important industry needs help to survive and grow in this new century.

Certain key areas for policy are identified by Louisiana industry and in other Megasites as critical factors. These are areas identified in both Louisiana's and Texas's economic development master plans. These are areas that a petrochemical Megasite plan will have to address. The issues of how to select, promote, and manage the vertical integration of the site are one group of issues. Also, at a minimum, the issues of permitting, transportation infrastructure, utilities, and access to world market LNG at stable prices will need to be addressed. We hope to do just that in the following two reports and gather public support in the ensuing Louisiana Petrochemical Megasite Conference.

Certainly legislation to facilitate the pre-permitting of chemical sites and provide one face to the investor would be an important first step. This would not be that expensive, and could help take permitting off the investor's critical path to project completion. The speed, certainty, and transparency of permitting was constantly brought up by the industry advisory group. It may be that past backlogs have been cleared up, but there is still a perceived uncertainty in the minds of investors.

Coordinated governmental support is an important factor for any major project initiative. Experience with the Louisiana Airport Commission project exemplifies this point. If policy is to mature to fruition then everyone has to work together. At least all of state and local government needs to cooperate. This increases the chances that private industry will risk its capital and that the entire project will succeed. A successful Megasite is a public and private collaboration. If all the parties participate in the spirit of mutual benefit then the future of the Louisiana petrochemical industry can be secured for future generations of workers, owners and tax payers.